




Work Order ID 53593 - 1



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November 9, 2009 12:48:56 PM

Item ID: D6005-128 Accept  Setup Start 
 Revision ID: A Stop 
 Item Name: Crosstube Material
 Start Date: 11/09/09 Start Qty: 28.00  Cust Item ID:
 Required Date: 12/31/09 Req'd Qty: 28.00  Customer:
 Reference:


Approvals: Process Plan:  Date: Tooling: Date: Run Start 
 QC: Date: SPC (Y/N): Date: Stop 

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D6005	Rev A

100	PURCHASING	0.00							
									
Purchasing	Memo	0.00							
Purchasing	Issue P/O: 10728 <input type="checkbox"/> a) Order as per Dwg D6005 <input type="checkbox"/> b) Material: 2.750 x 0.375 wall 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9 or QQ-A-200/11) seamless aluminum tube <input type="checkbox"/> c) Minimum ultimate tensile strength = 77 ksi <input type="checkbox"/> d) Minimum tensile yield strength = 66 ks								

CX 0911109 28

110	Receive & Inspect for Damage & Mat'l Certs	0.00							
									
Packaging	Memo	0.00							
Packaging	Ensure material certification is attached								

Rev 1/1/09 (6)

120	QC6- Inspect dimensions to drawing	0.00							
									
QC	Memo	0.00							
Quality Control	Ensure Material certification comply to Dwg D6005								

2) 5/10/09

(V6)

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 53593



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Item ID: D6005-128	Accept		Setup Start	
Revision ID: A			Stop	
Item Name: Crosstube Material				
Start Date: 11/09/09	Start Qty: 28.00		Cust Item ID:	
Required Date: 12/31/09	Req'd Qty: 28.00		Customer:	
Reference:				

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run Start	
	QC:	Date:	SPC (Y/N):	Date:	Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00							
140 QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00							
150 Packaging Packaging	Identify as per dwg & Stock Location: Memo	0.00 0.00							

LG

AWM

10-1-28

6

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 53593

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Item ID: D6005-128

Accept



Setup Start



Revision ID: A

Stop



Item Name: Crosstube Material

Start Date: 11/09/09 Start Qty: 28.00



Cust Item ID:

Required Date: 12/31/09 Req'd Qty: 28.00



Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/01/20 *[Signature]*

MF 10-1-79

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____




NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Comments:

Required Qty: 28.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status	
D6005-128PRevA		Purchased	No			110	Each	0.0000	28.0000				
										<i>P. 10/1/18</i>			
Crosstube material													

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

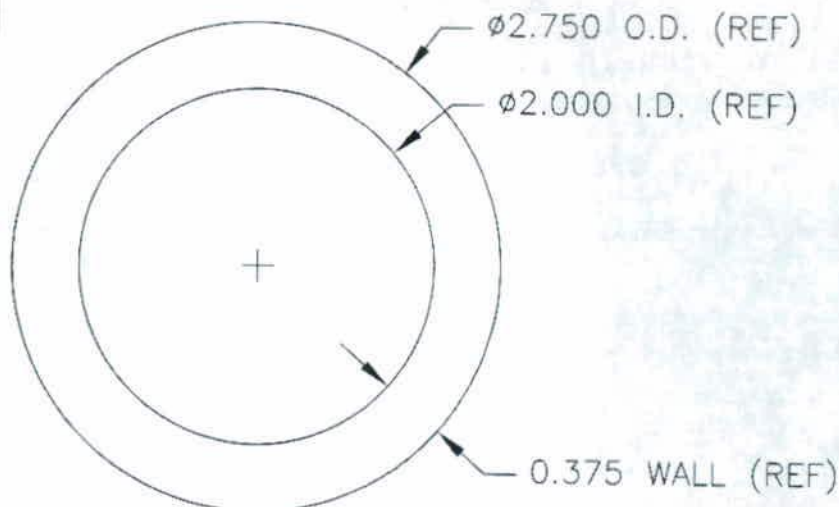


DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>A</i>	APPROVED <i>A</i>	DRAWING NO. D6005	REV. A SHEET 1 OF 1
DATE 00.11.17		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	00.11.17	NEW ISSUE	

u1053593

SPECIFICATION CONTROL DRAWING

RELEASED
00.11.24 *A*



NOTES

- 1) D6005-XXX CROSSTUBE
LENGTH

WHERE XXX IS LENGTH IN INCHES
EG. 128" LONG TUBE: D6005-128

- 2) MATERIAL: 2.750 OD x 0.375 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/9 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:
O.D.: ± 0.006 MEAN (± 0.012 INCLUDING OVALITY)
WALL: ± 0.015 MEAN (± 0.038 INCLUDING ECCENTRICITY)
LENGTH: XXX $+0.125/-0.000$
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO10728**

Purchase Order Date 11/09/09

PO Print Date 11/09/09

Page Number 1 of 2

Order From :

ALUMINIUMWERK UNNA AG
UELZENER WEG 36, 59425 UNNA
GERMANY, GERMANY

VU-ALU001

FXED
11/11/09

Contact Name

Vendor Phone 303 755 5936

Vendor Fax 303 755 5672

Vendor Account Nbr

Buyer

Chantal Lavoie

Requisition Nbr

Tax Resale Nbr

10127-2607

Terms

Net 30

Currency

USD

FOB

Ship To :

DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	D6005-128P A	Crosstube material	3/05/10 Yes	28.00 Each		\$434.0000	\$12,152.00
		Special Inst: AS PER DWG D6005 REV. A B53593 MATERIAL: 7075-T6/T6511 AS PER WW- T-700/7 OR QQ-A-200/11 SIZE 2.750" X 0.375" WALL SEAMLESS ALUMINUM TUBE MINIMUM ULTIMATE TENSILE STRENGTH = 77 KSI MINIMUM TENSILE YIELD STRENGTH = 66KSI					
2	D6009-129P A	Crosstube Material	3/05/10 Yes	14.00 Each		\$996.0000	\$13,944.00

MATERIAL CERTIFICATION
REQ'D UPON DELIVERY

No substitution or deviation without
consent.

Certificate of Conformity or Material
Certification required when applicable

Change Nbr: 1

Change Date: 11/09/09



Packinglist ALUnna AG

ALUnna ref. no.	34210/1
Customer PO.	PO. 10728
Date:	01.18.10

Boxmarking:

Dart Aerospace P.O. 10728 D6005-128
Made in Germany
Dest. Hawkesbury Ont. Canada

We hereby declare that the wooden packing material are totally free from bark and apparently free from live plant pests

[illegible]

Abnahmeprüfzeugnis 3.1 - EN 10204:2004

Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1- EN 10204:2004

Kunde: Dart Aerospace Ltd.
Client: 1270 Aberdeen Street
 K6A1K7 Hawkesbury, ON Canada

Zeugnisnummer: 1173/09

Cert No. / No. du certificat:

Bestellnummer: PO 10728

Order No. / No. de commande:

Auftrag: 34210/1

Our Reference/Notre Reference:

Produkt: Rohre nahtlos gepresst
Product / Produit: Tubes seamless extruded

Spezifikation: AMS - QQ - A - 200/11E; Spezifikation Dart Aerospace 6005
Specification:

Werkstoff: 7075
Alloy/Alliage:

Zustand: T 6511
Temper/Etat:

Abmessung: 2,750 INCH x 2,000 INCH x 0,375 INCH x 128,000 INCH
Size / Dimension: D6005-128 2.750 x 0.375 x 128

Kennzeichnung: ALUunna - Cert No. 1173/09 - 7075 - T 6511 - Cast No. 82335 - AMS QQA 200/11 - 2.750" OD X 0.375" Wall - Heat
Marking/Marquage: Lot No. 400254 - ALUunna Order Conf. No. 34210/1-1 PO. 10728

Lieferung:
Delivered Material / Matériel délivré:

pcs.
6

lbs
218

Country of Manufacture: Germany

Products are in accordance with applicable RoHS

1. Chemische Analyse

Chemical Analysis / analyse chimique

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
Charge/ min.			1,2		2,1	0,18	5,1						
Cast No. max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
82335	0,08	0,16	1,4	0,05	2,49	0,21	5,8	0,04	0,01	0,02	0,01	0,01	0,0001

Hydrogen content: < 0,10

ccm/100 g Al Elements without indication < 0,01 %

country of melt manufacturer: Germany

2. Mechanische Eigenschaften

Mechanical Properties / Valeurs Mécaniques

Anforderungen	tensile	yield	elongation	elongation	Hardness	Heat Lot No.
Requirements	(Rm) ksi	(Rp0,2) ksi	2" %	A %	HB	
min.	77,0	66,0				
max.						
1	86,420	79,895	9,0			400254 - 6 pcs.

RMS outside 25 - max. 11,7 µ"

Ergebnis der Prüfungen:

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results:

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

Results:

Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

KrampeR



Certified acc. DIN EN ISO 9001:2000 and DIN EN 9100:2003
 valid until 2010-11-11

08.01.2010

Cert. - Req. No.: 001959 QM; 001959 ASH

Handwritten signature